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THE EXTENT AND MEANING OF THE LOSS IN "TRANSFER" IN SPELLING

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It is a common observation of teachers that children stumble over words in composition which have been studied and apparently brought to a high stage of learning in the formal spelling periods. With this fact in mind we designed an experiment to determine just what part of the skill gained in the column presentation of words is carried over into contextual use.

The class that participated in the experiment was Grade VI, Hart School, Stamford, Connecticut. There were 41 pupils in the class, one-third of whom were Americans, the rest largely Italians.

For the study 37 words were selected from the regular spelling lists of the grade, consisting of selections from the lists of words most commonly used by children. These had been taught as a part of a regular spelling lesson four to seven weeks previous to the test, and had been included in a review test without teaching one to three weeks preceding the test. The words also had been tested for difficulty on the Friday preceding the week in which they were taught. The 37 words were divided between the hardest and the easiest words of the preceding lessons as follows: hard words, 17; easy words, 20. The original teaching as well as the testing was done by the regular class teacher, Miss Brown. The method of teaching consisted of the study of the individual words from the board, use in oral sentences, oral spelling, and writing; but not use in written sentences.

The 37 words were arranged into column and sentence dictation exercises and were given in four tests on three successive days, as follows: Tuesday, easy dictation; Wednesday, easy column and hard dictation; Thursday, hard column.

The dictation tests were given as a part of the language lesson and an effort was made to keep the real purpose of the tests concealed. The teacher simply told the children to look over their written work for any corrections that they cared to make. The results were tabulated to show the loss in transfer, and the relation of the word-difficulty, nationality, and spelling ability to loss in transfer.

The statistical results are given in Table I.

TABLE I
SPELLING ACHIEVEMENT BEFORE TEACHING, IN THE COLUMN TEST AND
IN THE DICTATION TEST (41 PUPILS)

WORDS	No.	BEFORE TEACHING		COLUMN TEST		DICTATION TEST	
		Right	Wrong	Right	Wrong	Right	Wrong
Hard.....	17	275	422	606	91	557	140
Easy.....	20	589	231	796	24	784	36
Total.....	37	864	653	1,402	115	1,341	176

In order to find the loss in transfer from column presentation to sentence use we must know the efficiency achieved before and after teaching, and compare with the net efficiency gained in the column drill the efficiency retained in the use of words in sentences. When we deducted, from the number of words correctly spelled in the column test, the words correctly spelled before teaching, we found that as a result of column drill 538 additional words were spelled correctly. As compared with this figure the net achievement in the dictation test was only 477 words. The relative gain is that part which 477 is of 538 or 89 per cent. Therefore, the loss in transfer is 11 per cent.

The loss is much greater for the hard words than for the easy words. In the first group it is 15 per cent, from 331 to 282 words correctly spelled. In the second group it is 6 per cent, from 207 to 195 words.

The ability of the child is a factor in the loss in transfer only in case of the easy words. For the hard words the loss is about the same, 12 words, whether the nine best pupils or the nine poorest pupils are taken. For the easy words, on the other hand, the best

pupils show no loss whatever and the poorest pupils show a loss of 11 words. When an appreciable loss was found, nearly all pupils participated in it, although not to the same extent. On the whole the loss was well distributed.

The nationality of the pupil does not seem to affect the proportional loss in dictation exercises. The difference between the American pupils and the foreigners is only a fraction of 1 per cent. Thirteen American children made 35 errors in the column test and 54 errors in the dictation test. Twenty-eight foreign children made 80 and 122 errors in the corresponding exercises.

DISCUSSION AND APPLICATION

The results differ noticeably from the results of all previous investigations and therefore demand some explanation. Cornman, who first studied the subject, concluded that there is little if any transfer from column to dictation exercises. Wallin contradicted this statement and went to the other extreme, saying that the loss in transfer does not amount to over two words in a hundred. Cook and O'Shea tend rather to confirm the conclusions of Wallin. They say that the loss in transfer is about 5 per cent.

Cornman's conclusion, of course, is not supported by the careful and precise measurements which a scientific study demands. Wallin and Cook and O'Shea neglected to take into consideration the extent of the children's knowledge of the words before teaching. All words known to the children before teaching began were treated as if they had been learned as a result of the specific spelling drill (when Miss Brown and I did the same thing we found the loss in transfer to be only 4 per cent).

The loss in transfer of this group of words is of course very slight, so that the number of words correctly spelled in both tests was very much increased while the number misspelled in both tests was scarcely changed. The effect is to make the loss in transfer appear to be much less than it really is. If Wallin and Cook and O'Shea had subtracted the words already known to the children before comparing the gains in the two forms of testing, it is probable that they would have obtained results somewhat similar to the results of this experiment.

The loss in transfer from column presentation to use in sentences is a real one, neither so large as to justify the statement that there is little or no transfer, nor so small as to be negligible. The practical question for the teacher is, What are the pedagogical implications of this fact? The answer to this question is a long story, of necessity condensed here.

In the first place, it is not a question of finding a substitute for the column method of presenting words. No one has ever found a method of teaching that would take the place of a good drill exercise, involving taking the word out of its setting and studying it in isolation. It does mean that some modifications of the usual drill exercise should be made in order to guarantee greater facility in the use of words in context.

The chief difficulty of our teaching has been that it has stopped short of the actual mastery of words. We have been satisfied with a high degree of efficiency in column tests and a scheme of reviews which would keep the efficiency up to a comparatively high level as revealed in these tests. This is all right in its place, but it does not go far enough. Spelling words in context is more than spelling words in isolation. In the latter case the child's whole attention and effort are directed against getting each letter in its proper place. In contextual use, on the other hand, the attention is mainly given to thinking and the selection and placing of words. Attending to the ordering of letters is a burden on thinking. To be of practical value spelling must be carried to the point of free and accurate use in writing.

It is conceivable that this could be accomplished in column drill alone by bringing spelling to a stage of easy perfection for all pupils. But this probably would be wasteful of time and energy as well as unhealthful. It seems more sensible to supplement the regular drill work by the use of words in written sentences, dictation, and the like. Inasmuch as it involves a higher degree of skill than isolated spelling, it should come toward the end and after the isolated drill period. For example, in the seat work, after the presentation of the word to the class and class study, the child may well be required to use the word frequently in written sentences. Also, tests and reviews might well take the form of dictated exercises

in order to provide more frequent contact with the words to be mastered than the ordinary work of the school and life provides.

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